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RECORDS OF WESTERN BEES

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The holotypes of all the new forms described will be found in the American Museum.

Andrenidae

Andrena (Conandrena) cheyennorum Viereck and Cockerell

Wyoming: Rawlins, alt. 6800 ft., June 26, 1920, 1♀ (Lutz); Medicine Bow, alt. 6600 ft., June 23, 1920, 2♀ (Lutz).

Idaho: Victor, alt. 6300 ft., July 11, 1920, 1♀ (Mrs. F. E. Lutz).

Andrena mimetica Cockerell

California: Palm Springs, March 24, at *Phacelia*, 1♀ (W. P. Cockerell); Tub Spring, Borego, March 21, at *Hyptis emoryi* Torrey, ♀ (Cockerell).

Andrena nigrae Robertson

Colorado: Julesburg, alt. 3460 ft., June 7, 1920, on willow and at willow flowers, 3♀ (Lutz).

Andrena sieverti Cockerell

Wyoming: Laramie, on Univ. of Wyoming campus, alt. 7200 ft., June 14, 1920, 6 ♀ (Lutz). These appeared to be a new race, having the hind tarsi, and greater part of hind tibiae, red, but in one specimen these parts are dark as in typical *A. sieverti.*

Andrena sieverti var. **opacicauda,** new variety

FEMALE.—Surface of abdomen dull, hardly at all shining; hind basitarsi, and greater part of hind tibiae usually, but not always, red. The dull effect is due to a dense minute sculpture, the scattered punctures of the tergites being essentially as in the typical form.

Wyoming: Laramie, on Univ. of Wyoming campus, alt. approx. 7200 ft., June 14, 1920, 16♀ (Lutz).

Had this been taken in some other locality, it would have been supposed to be a different species, but I feel sure that it is a Mendelian alternative to typical *A. sieverti.*

A. persimilis Graenicher is very close to *A. sieverti*, but distinct. One of the characters is in the second cubital cell, which in *A. persimilis* is narrow and parallel-sided, receiving the recurrent nervure near the end; in *A. sieverti* it is larger, contracted above, and receiving the recurrent nervure far from the end. A female from West Point, Nebraska, which Crawford had referred to *A. albovirgata* Ckll., is precisely *A. persimilis*. *A. medionitens* Ckll. is easily known from *A. sieverti* by the broader facial foveae.

Andrena speculifera Cockerell

Wyoming: Pine Bluffs, alt. approx. 5050 ft., June 9, 1920, 6 ♀ (Lutz).

Nomia bolliana helenii, new subspecies

FEMALE.—Scape, thorax, legs, and first three abdominal segments red, the third tergite somewhat dusky; area of metathorax reduced to a very brief, poorly defined, roughened surface; second cubital cell very broad, third receiving second recurrent nervure very near end.

Texas: McMullen County, 1935 (H. B. Parks). Three were sent, all from flowers of *Helenium microcephalum* D. C. One approaches the typical form in having the mesothorax and sides of thorax black.

Texas: About 12 miles south of Tilden, McMullen County, abundant on *Helenium microcephalum* D. C., collecting pollen and nectar. Also about 31 miles southeast of Carrizo Springs, in Webb County, very abundant on *Polypteris texana* (D. C.), collecting pollen and nectar (H. B. Parks).

This looks like an overgrown *N. nevadensis* Cresson, but is easily separated by the large long tegulae, sinuate on outer side, and other characters.

Conanthalictus wilmattae, new species

FEMALE.—Length about 5 mm., anterior wing 4; dark bluish green, including the abdomen, which has the margins of the tergites brown; head transverse, short, the clypeus with an elevated thickened black margin; mandibles with the apical third red, the rest black; antennae rather long, the flagellum bright ferruginous beneath; front dull, vertex more shining but not polished; head, thorax, and legs with thin long white hair; hair on inner side of hind tarsi reddish; legs black; mesothorax shining dark green, with a microscopically tessellate surface and scattered punctures; scutellum shining, a rather yellower green; area of metathorax large, dull, minutely roughened, with a few very weak plicae at base, the rounded hind margin shining; tegulae very dark brown; wings hyaline, the pale yellowish stigma with a dark margin; second cubital cell extremely narrow, receiving recurrent nervure before end; abdomen dullish, with a sericeous surface, the tergites shining before the depression; hair at apex pale grayish brown.

California: Tub Spring, near Borego, San Diego County, March 21, 1935, 1♀ (Wilmatte P. Cockerell). Very near to *C. bakeri* Crawford, which Timberlake takes on *Phacelia distans* Bentham in May, but differs by the broader head, flagellum red beneath, more shining mesothorax, and much paler stigma.

Panurgidae

Calliopsis andreniformis Smith

Colorado: White Rocks, Boulder Co., July 8, 1935, both sexes abundant at white Petalostemon flowers (Chas. Michener, T. D. A. Cockerell). These are *C. andreniformis*, not the western *C. rhodophilus* Ckll.

Halictoides scintilla (Cockerell)

California: Claremont (Baker). A re-examination of the type of *Diandrena scintilla* shows that it is related to *Halictoides viridescens* Crawford. The two species form a group, very distinct from typical *Halictoides.*

Panurginus bakeri Cockerell

Colorado: Aspen, alt. 8000 ft., July 24–27, 1919 (Lutz); Ward, alt. 8600 ft., July 7, 1922 (Gordon W. Strawbridge). Both males.

Panurginus cressioniellus Cockerell

Colorado: Longs Peak, alt. approx. 9000 ft., June 14, 1922, 1♂ (Lutz).

Panurginus innuptus (Cockerell)

Colorado: La Junta, alt. 4100 ft., Aug. 12, 1920, 1♂, 1♀ (Lutz).

Panurginus porterae Cockerell

Colorado: Jim Creek, near Boulder, alt. approx. 6400 ft., July–Aug. 1922, 7♀, 14♂, at *Rudbeckia laciniata* and also at light, one pair copulating at 7:15 A.M. (Lutz).

Perdita albipennis hyalina (Cresson)

Colorado: White Rocks, Boulder Co., one male at flowers of *Helianthus petiolaris*, July 8, 1935 (Chas. Michener). It differs from Cresson's description in having the front tibiae entirely black, and the tarsi dark, the small joints of the front pair reddened. In my key (Proc. Acad. Nat. Sci. Phila., 1896) it runs out at 21. Two females of *Perdita affinis* Cresson were also taken at the same time, on the same flowers.

Anthophoridae

Centris aterrima Smith

Arizona: Tumacacori Mts., Aug. 3, 1931 (I. Wilson). Submitted by Chas. Michener. New to the United States.

Anthophora neglecta Timberlake and Cockerell, new species

Closely allied to *A. edwardsii* Cresson, but "genitalia quite different, and abdomen with no metallic color, and spurs of middle tibiae not curved at end as in *A. edwardsii;* hair of thorax above and first tergite varies to fulvous." (Timberlake.)

MALE (type).—About 12 mm. long, anterior wing 10.4; black, without metallic tints; hair of head, thorax, and first two tergites long and white; mandibles and antennae black, except that the scape is mainly cream-colored in front; eyes dark gray; clypeus convex, polished, cream-colored, except narrow lower margin, and broad black band on each side; other cream-colored marks are a narrow stripe along lower margin of supraclypeal area, arrowhead-shaped lateral marks (the concave upper end fimbriate), and labrum except the lower edge and large black spots at basal corners; third antennal joint long and slender, longer than the next two combined; some dusky hairs in region of ocelli; mesothorax and scutellum dull, the later with a median keel on anterior part; tegulae very dark brown; wings clear hyaline, nervures dark brown; basal nervure meeting nervulus; second cubital cell receiving recurrent nervure in middle; legs with white hair, rusty black on inner side of hind tibiae and tarsi; middle tarsi simple, but the claw-joint swollen; tergites obscurely brownish apically; third to fifth with scanty black hair; sides of sixth with shining white hair, and pale yellowish hair on each side of the narrow apical plate.

FEMALE.—Similar but more robust, without light markings on head or antennae; a slender keel from lower end of clypeus to middle ocellus, more sharply defined at upper end; sides of face, vertex, and thorax above with black hairs intermixed; lateral margins of abdomen fringed with white hair.

California: Tub Spring, Borego, both sexes at flowers of *Amsinckia douglasiana* A. DeCandolle, March 21, 1935 (W. P. Cockerell). I showed this to Mr. Timberlake, and found that he had already taken it, at Little Rock, California, March 1932, also at flowers of *A. douglasiana.* He had recognized it as new, with the diagnostic characters cited above, but he suggests that I should publish it.

The male *A. neglecta* is easily known from *A. edwardsii* by the shining cream-colored clypeus; in *A. edwardsii* it is dull and yellow. There are several females which are much alike, as follows:

1.—More robust; hair of mesothorax above entirely white, or with a little blackish anteriorly; eyes green; tegulae red ..... *porterae* Cockerell.
Less robust; hair of mesothorax with a conspicuous admixture of black; tegulae dark brown or black ..... 2.
2.—Eyes black or dark gray ..... *neglecta* Timberlake and Cockerell.
Eyes pea green ..... 3.

3.—Clypeus dull and rough, without a distinct median ridge..... *edwardsii* Cresson.
Clypeus with a distinct median ridge..... *simillima* Cresson.

Diadasia afflicta Cresson

New Mexico: Six miles east of Folsom, June 30, 1935, numerous females (J. D. Figgins). They were nesting in soft ground, and did not make any structures to protect entrance to nest. New to New Mexico.

Melissodes hortivagans Cockerell

Colorado: Boulder, July 27, 1922, 2 ♂, at pink geranium (Lutz). One has the fifth tergite with the hair practically all black; in the other there is a white band. New to Colorado.

Melissodes hymenoxidis Cockerell

Utah: Huntsville, July 26, 1920, 1 ♀, mostly on Grindelia (Lutz).

Melissodes obliqua (Say)

Colorado: Jim Creek, near Boulder, alt. 6400 ft., Aug. 2, 1922, 1 ♂, at *Cleome serrulatum* (Lutz).

Melissodes obliqua expurgata Cockerell

Utah: Ogden, Aug. 29–30, 1916, 1 ♂, asleep in *Helianthus* flowers, (Lutz); Provo, 4750 ft., July 29–Aug. 1, 1920, 2 ♂ (Lutz).

Wyoming: Green River, alt. 6100 ft., July 2, 1920, 1 ♂ (Lutz).

Melectidae

Neolarra congregata helianthi, new subspecies

MALE.—A little larger; head broader (diameter of face about 1120 microns, in *N. congregata* 880); eyes dark gray; abdomen darker red, with the white bands broader.

Colorado: White Rocks, Boulder County, July 8, 1935, on flower of *Helianthus petiolaris* Nuttall, 1 ♂ (Cockerell). Probably a distinct species, parasitic on the sunflower *Perdita*. *N. congregata* Crawford visits *Verbesina encelioides*.

Neolarra pruinosa Ashmead

At White Rocks, Colorado, July 8, 1935. Mr. Chas. Michener took two male *Neolarra* on flowers of *Psoralea tenuiflora* Pursh, in the immediate vicinity of the habitat of *Perdita opuntiae* Ckll., though *P. zebrata* Cresson also occurred near by. One of these males has a light red abdomen and, except for the sexual characters, exactly matches *N.*

pruinosa, described and known from the female. The other has a dark abdomen, reddish only at extreme tip, covered with pale pubescence (forming white bands at ends of tergites), exactly as in *N. vittata* Ckll. However, it seems not to be *N. vittata*, although extremely similar, the head of *N. vittata* being considerably larger, with longer, pale green eyes (eyes pale bluish gray in Colorado insect), while the abdomen is less depressed. In Pan-Pacific Entomologist, 1929, p. 105, it is suggested that *N. vittata* may be the male of *N. pruinosa*, but this now seems not to be the case. The sexes of *N. congregata* do not differ in the color of the abdomen. The male with dark abdomen, from White Rocks, may be a form of *N. pruinosa*, or it may be a distinct species.

Oxaeidae

Protoxaea nigerrima arizonica, new subspecies

FEMALE.—Fringe of fifth tergite thick and black, with a little white at extreme sides; antennae without red, but scape obscurely brown at apex. The hair of mesothorax is dense, like velvet, brown-black; occiput and cheeks posteriorly with long white hair; wings dark reddish fuliginous; maxillary palpi well developed.

Arizona: Tumacacori Mts., Aug. 31, 1931 (I. Wilson). Submitted by Chas. Michener, who has three specimens, and presents the holotype to the American Museum.

Caupolicana yarrowi Cresson was taken in the same mountains, Aug. 28.

Megachilidae

Formicapis neomexicana (Cockerell)

Colorado: Aspen, alt. 8000 ft., July 24–27, 1919, 2 ♀ (Lutz).